CLAIMS:

1. (Currently amended) A screen for detecting affects of chemicals on gene expression comprising: ~~animal cleavage stage embryos and~~ detecting means for detecting changes in gene expression, wherein said detecting means includes animal cleavage stage embryo hybridizing means for hybridizing RNA probes generated from chemically treated animal cleavage stage embryos.

2. (Original) The screen according to claim 1, wherein said embryos are vertebrate embryos.

3. (Original) The screen according to claim 2, wherein said embryos are embryos from aquatic species.

4. (Original) The screen according to claim 3, wherein said embryos are amphibian.

5. (Original) The screen according to claim 4, wherein said embryos are *Xenopus*.

6. (Original) The screen according to claim 5, wherein said embryos are *Xenopus laevis*.

7. (Currently amended) A screen for identifying and characterizing chemicals as toxicants based on the affect of the chemical on gene expression, comprising: detecting means for detecting changes in gene expression, wherein said detecting means includes animal cleavage stage embryo hybridizing means for hybridizing RNA probes generated from chemically treated animal cleavage stage embryos, said

screen further including control means for identifying and characterizing the chemical ~~said screen comprising animal cleavage stage embryos~~.

8. (Original) The screen according to claim 7, wherein said embryos are vertebrate embryos.

9. (Original) The screen according to claim 8, wherein said embryos are embryos from aquatic species.

10. (Original) The screen according to claim 9, wherein said embryos are amphibian.

11. (Original) The screen according to claim 10, wherein said embryos are *Xenopus*.

12. (Original) The screen according to claim 11, wherein said embryos are *Xenopus laevis*.

13. (Original) The screen according to claim 7, wherein the chemicals to be tested are inducers of cellular proliferation.

14. (Original) The screen according to claim 13, wherein said inducers are phorbol esters.

15. (Original) The screen according to claim 14, wherein said phorbol ester is phorbol 12-myristate 13-acetate.

16. (Currently amended) A microarray screen for detecting and measuring the affects of chemicals on gene expression in animal cleavage stage embryos, said screen comprising: detecting means for detecting changes in gene expression, wherein said detecting means includes animal cleavage stage embryo hybridizing means for hybridizing RNA probes generated from chemically treated animal cleavage stage embryos.

17. (Original) The microarray screen according to claim 16, wherein said embryos are vertebrate embryos.

18. (Original) The microarray screen according to claim 17, wherein said embryos are embryos from aquatic species.

19. (Original) The microarray screen according to claim 18, wherein said embryos are amphibian.

20. (Original) The microarray screen according to claim 19, wherein said embryos are *Xenopus*.

21. (Original) The microarray screen according to claim 20, wherein said embryos are *Xenopus laevis*.

22. (Withdrawn) Markers of chemical exposure identified using the screen according to claim 1.

23. (Withdrawn) Markers of chemical exposure identified using the screen according to claim 1 as listed in Table 1, Panel A, and Table 3 and corresponding genes in other species

24. (Withdrawn) Markers of teratogenesis identified using the screen according to claim 1.

25. (Withdrawn) Markers of teratogenesis identified using the screen according to claim 1 as listed in Table 1, Panel A, and Table 3 and corresponding genes in other species.

26. (Currently amended) A screen for identifying and characterizing chemicals as toxicants based on the affect of the chemical on gene expression, ~~said screen~~ comprising: detecting means for detecting changes in gene expression between animal cleavage stage embryos and animal neurulation stage embryos, wherein said detecting means includes animal cleavage stage embryo hybridizing means for hybridizing RNA probes generated from chemically treated animal cleavage stage embryos and animal neurulation stage embryo hybridizing means for hybridizing RNA probes generated from chemically treated animal neurulation stage embryos ~~animal embryos undergoing cleavage and neurulation~~.

27. (Original) The screen according to claim 26, wherein said embryos are vertebrate embryos.

28. (Original) The screen according to claim 27, wherein said embryos are embryos from aquatic species.

29. (Original) The screen according to claim 28, wherein said embryos are amphibian.

30. (Original) The screen according to claim 29, wherein said embryos are *Xenopus*.

31. (Original) The screen according to claim 30, wherein said embryos are *Xenopus laevis*.

32. (Withdrawn) A treatment enabling the transfer of biotinylated DNA to a membrane following gel electrophoresis, said treatment including the steps of:

depurinating the DNA; and

denaturing the DNA.

33. (Withdrawn) A treatment enabling the transfer of biotinylated PCR products to a membrane following gel electrophoresis, said treatment including the steps of:

depurinating the PCR products; and

denaturing the PCR products.

34. (Withdrawn) A treatment enabling the transfer of biotinylated PCR products obtained by reverse-transcription of mRNA to a membrane following gel electrophoresis, said treatment including the steps of:

depurinating the PCR products; and

denaturing the PCR products.